

REMARKS/ARGUMENTS

Claims 1-9, 12 and 19 are cancelled.

Upon entry of the amendment, Claim 10-11 and 13-18 will be active.

Support for each amended claim is found at the originally filed claims and throughout the specification. Additionally, support for the “radical polymerization initiator” feature of present Claim 10 is found, for example, at page 5, line 42, through page line 14, of the originally filed specification. Support for the “wherein the multifunctional macromonomer comprises at least one free-radically polymerizable group selected from the group consisting of an acrylate group, a methacrylate group, a maleate group, a vinyl ether group, a vinyl group, and an allyl group,” of present Claim 10 is found, for example, at page 3, lines 4-8, of the originally filed specification.

No new matter is believed to have been added.

The written description rejection of Claim 12 is obviated by the cancellation of Claim 12.

The written description rejection of present Claim 10 is obviated by amendment.

The obviousness rejection of Claims 10-14 and 17-18 as being unpatentable in view of Rockrath is respectfully traversed, because Rockrath does not describe or suggest the multifunctional macromonomer feature of present Claim 10 and the claims depending therefrom, and because Rockrath does not describe or suggest using a thermally polymerizable mixture comprising a multifunctional macromonomer and a radial polymerization initiator as a binder to form an article.

Rockrath discloses a coating material that contains a binding agent A) and a crosslinking agent B) (see the Abstract of Rockrath). Rockrath’s binding agent A) contains at least two functional groups a1) that can enter into thermal cross-linking reactions with complementary functional groups b1) in the crosslinking agent B) (see the Abstract of

Rockrath). However, Rockrath further describes that the binding agent A) contains in an integrally polymerized manner, at least one olefinically unsaturated polysiloxane macromonomer (see the Abstract of Rockrath). Because Rockrath's polysiloxane macromonomer is copolymerized (e.g., is integrally polymerized) with other monomers to form the binding agent, Rockrath's polysiloxane macromonomer cannot exist as a multifunctional macromonomer because it has already been copolymerized.

Further, while the coating material of Rockrath can be applied to surfaces such as glass fibers, glass wool, and rock wool, (see Rockrath, column 19, lines 37-19), Rockrath's coating material is merely a coating material, and not described or suggested as a binder for forming an article. Example 1 of Rockrath describes preparation of a polyacrylate as binding agent A), which is only one component of Rockrath's coating material. Example 5 describes the preparation of the crosslinking material. Nowhere in Rockrath is there a description or suggestion to use a multifunctional macromonomer together with a radical polymerization initiator as a binding system to form an article, as described in present Claim 10 and the claims depending therefrom.

Because Rockrath does not describe or suggest all of the features of present Claim 10, and the claims depending therefrom, Rockrath cannot render obvious these claims.

Withdrawal to the obviousness rejection is requested.

The obviousness rejection of Claims 10-14 and 17-18 as being unpatentable over Baumgart is respectfully traversed. Baumgart describes a coating composition comprising a binder A) that is at least one hydroxyl-containing polyacrylate containing in copolymerized form at least one polysiloxane macromonomer, and B) at least one tris(alkoxycarbonylamino)triazine as a crosslinking agent. (See the Abstract of Baumgart). Baumgart does not describe or suggest using Baumgart's composition as a binding system to

form an article, whereas present Claim 10 and the claims depending therefrom describe forming an article using a binding system. Further, Baumgart does not describe the multifunctional macromonomer of present Claim 10, and the claims depending therefrom, because at least one hydroxyl-containing polyacrylate has been copolymerized (e.g., containing in copolymerized form...see the Abstract of Baumgart) and thus, cannot exist as a monomer. Withdrawal of the obviousness rejection is requested.

The obviousness rejection of Claims 10-14 as being unpatentable in view of Arkens is respectfully traversed. The composition of Arkens is directed to a binder system that contains a) a polyacid containing at least two carboxylic groups, b) a polyol containing at least two hydroxyl groups, and c) a phosphorous containing accelerator (see column 2, lines 58-62, of Arkens). The polyacid is preferably an addition polymer (see Arkens column 3, lines 57-58, formed by polymerization of ethylenically unsaturated carboxylic monomers, such as acrylic or methacrylic acid (see Arkens, column 4, line 4). The binder system is of Arkens is cured due to the esterification reactions of the carboxylic groups of the polyacid a) and the hydroxyl groups of the polyol b) (see Arkens, column 8, lines 42-43), and the esterification reaction of a) and b) is accelerated by the phosphorous containing compound c). Arkens fails, however, to describe or suggest that a multifunctional macromonomer and a radical polymerization initiator, as found in present Claim 10 and the claims depending therefrom, can be used as a binding system for fibrous and/or granular substrates. Withdrawal of the obviousness rejection is requested.

The obviousness rejection of Claims 10-14 and 17-18 as being unpatentable over Engelke in view of Rockrath is respectfully traversed. Engelke describes a coating material, not a binding system, comprising as a binding agent a copolymer A) with carboxyl groups and /or a copolymer B) with epoxide groups; the polymers A) and B) being obtained by

radical solution polymerization using less than 5% of one or more polysiloxane macromonomers (see Engelke, the Abstract). Because polymerization has occurred in Engelke, the polysiloxane macromonomer is a copolymerized part of the polymer A and or B), and thus, the ethylenically unsaturated double bonds are no longer present. Thus, the copolymers A and/or B are the binding agents in Engelke; and the multifunctional macromonomer of present Claim 10, and the claims depending therefrom, is not described or suggested by Engelke. Because both Engelke and Rockrath (as described above) both describe coating materials, not binding systems, and because both Engelke and Rockrath (as described above) fail to describe the multifunctional macromonomer of present Claim 10 and the claims depending therefrom, neither Engelke or Rockrath, either alone or in combination, can render present Claim 10 and the claims depending therefrom obvious. Withdrawal of the obviousness rejection is requested.

The obviousness rejection of Claims 10-14 and 17-18 as being unpatentable over Engelke in view of Baumgart is respectfully traversed. As described above, Engelke does not describe or suggest all of the features of present Claim 10, and the claims depending therefrom, noting especially that the binding system and the multifunctional macromonomer of, for example, present Claim 10 and the claims depending therefrom, are not described or suggested by Engelke. The disclosure of Baumgart, in describing a coating composition, not a binding system, does not remedy the deficiencies of Engelke. Similarly, Baumgart, in failing to describe the multifunctional macromonomer of, for example, present Claim 10, as described above, twice fails to cure deficiencies of Engelke. Because either reference, either alone or in combination, does not describe or suggest all of the features of present Claim 10, and the claims depending therefrom, the references, alone, or in combination, cannot render obvious the present claims. Withdrawal of the rejection is respectfully requested.

The obviousness rejection of Claims 15-16 and 19 as being unpatentable over Arkens in view of Rockrath is respectfully traversed. As described above, Arkens fails to describe or suggest that a multifunctional macromonomer and a radical polymerization initiator, as found in present Claim 10 and the claims depending therefrom, can be used as a binding system for forming an article from fibrous and/or granular substrates. The disclosure of Rockrath, as described above, is drawn to coating materials, not binding systems, and fails to describe or suggest the multifunctional macromonomer of present Claim 10 and the claims depending therefrom. Thus, Rockrath and Arkens, either alone or in combination, do not describe or suggest every feature of the present claims. Withdrawal of the obviousness rejection is requested.

The obviousness rejection of Claims 10 and 15 as being unpatentable over Beck is respectfully traversed. Beck discloses a radiation-curable coating material (see, for example Beck, column 1, lines 1-16). The coating material of Beck is prepared by reacting a radiation curable catalyst with an epoxide compound and then having the coated material cured by radiation. Thus, Beck fails to describe or suggest a binding system, as disclosed in, for example, the method of present Claim 10. Concerning the Office's grafting of Fujioka onto Beck: Applicants respectfully note that phenothiazine is known as a "photoinitiator" and not as a "radical initiator", and that Beck requires that Beck's coating material is prepared by reacting a radiation curable catalyst with an epoxide compound and then having Beck's coating material cured by radiations. Thus, Beck fails to describe or suggest all of the features of present Claim 10 and the claims depending therefrom. Withdrawal of the rejection is requested.

The obviousness rejection of Claims 16 and 19 as being unpatentable over Beck in view of Rockrath is respectfully traversed. Both Beck and Rockrath are drawn to coating

systems, not binding systems, whereas the method of, for example present Claim 10, is drawn to forming an article with a binding system. Beck, as described above, requires a radiation curing step. As described above, Rockrath fails to describe or suggest employing a multifunctional macromonomer together with a radical polymerization initiator as a binding system to form an article, as described in present Claim 10 and the claims depending therefrom. Thus, Beck and Rockrath, either alone or in combination, do not describe or suggest all of the features of present Claim 10 and the claims depending therefrom.

Withdrawal of the rejection is requested.

Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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